Claims:

1. (Original) A method for making a dynamoelectric machine comprising the steps of:

providing a stator core having a main axis and a secondary axis, said secondary axis being parallel to, and radially offset from, said main axis, said core further including a plurality of teeth projecting radially inwardly to define a central bore, said plurality of teeth being separated by intervening slots having slot openings;

forming a continuous wave-shaped conductor segment out of a continuous conductor, said wave-shaped conductor segment having a plurality of straight portions extending longitudinally along and parallel to said secondary axis, a plurality of end-turn regions extending transverse said secondary axis and disposed in between said straight portions in an alternating pattern so as to define a pair of free segment ends on outermost straight portions, said free segment ends having a first cross-sectional shape, said straight portions having a second cross-sectional shape different than said first shape, and said end-turn regions having a third cross-sectional shape different than said first or second cross sectional shapes; and

inserting said wave-shaped conductor segment so as to be received in said slots at intervals of a predetermined number of slots.

2. (Original) The method of claim 1 further comprising the substeps of:

providing said stator core such that said teeth include unformed tooth tips that define said slot openings; and

deforming said unformed tooth tips so as to reduce said slot openings.

3. (Original) The method of claim 1 wherein the forming step further comprises the substep of:

fashioning said wave-shaped conductor segment so as to span one or more wave cycles.

4. (Original) The method of claim 1 wherein the forming step further comprises the substep of:

fashioning said wave-shaped conductor segment so as to span n/2 wave cycles wherein n is an integer greater than or equal to 1.

5. (Original) The method of claim 4 wherein the fashioning step includes fashioning said wave-shaped conductor segment in a manner in which n=7.

6. (Original) The method of claim 1 wherein the forming step further comprises the substep of:

shaping said wave-shaped conductor segment so that both of said free segment ends are on the same axial side of said stator core.

7. (Original) The method of claim 1 wherein the forming step includes forming said continuous wave-shaped conductor segment out of a conductor having a circular cross section shape.

8. (Original) The method of claim 7 wherein the forming step further includes the substep of:

reshaping the said straight portions of said conductor segment into a rectangular cross-section shape having a width and a height, and wherein the width of said straight portions is substantially equal to the width of said slot, thereby defining said second cross-section shape that is different than said first cross-section shape.

9. (Original) The method of claim 8 wherein the reshaping step further includes the substeps of:

limiting said reshaping of the second cross section geometry to only the area of said straight portion that occupies said slots upon insertion into said stator core.

10. (Original) The method of claim 7 wherein the forming step further includes the substep of:

reforming said end turn regions of said conductor segment into a rectangular cross-section shape having a major extent and a minor extent, and wherein said major extent is greater than the width of said second cross-section shape, and said minor extent is less than the

height of said second cross-section shape, thereby defining a third cross-section shape that is different than said first cross section shape, and said second cross-section shape.

11. (Original) The method of claim 1 further comprising the steps of:

repeating said providing and inserting steps a preselected number of times so that all of said slots are occupied by said straight portions of said wave-shaped conductor segments; and

connecting respective first and second segment ends of the inserted adjacent wave-shaped conductors to form a continuous wave-shaped conductor segment.

12. (Original) The method of claim 1 further comprising the step of forming said wave-shaped conductor segment so as to traverse six (6) of said slots between each of said straight portions.

13. (Original) The method of claim 1 wherein the inserting step includes inserting said wave-shaped conductor segment into said slots through corresponding slot openings in a radially-outwardly direction from said central bore.

14. (Original) The method of claim 1 wherein the inserting step includes inserting said wave-shaped conductor segment into said slots in an axial direction.

15. (Original) The method of claim 2 wherein the deforming step further includes the substep of cold working the radially innermost portion of said tooth tips.

16. (Original) The method of claim 1 further comprising the step of inserting a slot insulating material in each of said slots wherein a combined width of each of said straight portions and said insulating material is substantially equal to the slot width.

17. (Withdrawn) A method of making a dynamoelectric machine comprising the steps of:

providing a stator core having a main axis and a secondary axis parallel to and radially offset from said main axis, said stator core further including a yoke and a plurality of

teeth projecting radially inwardly away from said yoke to define a central bore, wherein each of said teeth includes a tooth tip having a radially innermost portion and including a pair of legs with a recess disposed therebetween;

providing a plurality of slots formed between two of said plurality of teeth, each slot extending axially for the entire length of said stator core, and wherein each slot includes two sides, an open end located between the tooth tips of consecutive teeth, and a closed end adjacent to said yoke;

forming a continuous wave-shaped conductor segment having a first cross-section shape, and further being comprised of a plurality of straight portions extending longitudinally along and parallel to said secondary axis with end-turn regions extending transverse said secondary axis and disposed in between said straight portions in an alternating pattern so as to define a pair of free segment ends on outermost straight portions, said free segment ends having a first cross-sectional shape, said straight portions having a second cross-sectional shape different than said first shape, and said end-turn regions having a third cross-sectional shape different than said second shape;

shaping said wave-shaped conductor segment so that both free segment ends are on the same axial side of said stator core;

fashioning said wave-shaped conductor segment so as to span one or more wave cycles;

inserting said wave-shaped conductor segment so as to be received in said slots at intervals of a predetermined number of slots;

repeating said providing and inserting steps a preselected number of times so that all of said slots are occupied by said straight portions of said wave-shaped conductor segments;

connecting respective first and second segment ends of the inserted adjacent wave-shaped conductor segments to form a continuous stator winding; and

deforming said unformed tooth tips so as to reduce said slot opening.

18. (Withdrawn) The method of claim 17 wherein the forming step further comprises the substep of:

fashioning said wave-shaped conductor segment so as to span n/2 wave cycles wherein n is an integer greater than or equal to 1.

19. (Withdrawn) The method of claim 18 wherein the fashioning step includes fashioning said wave-shaped segment conductor in a manner in which n=7.

20. (Withdrawn) The method of claim 17 wherein the forming step includes forming said continuous wave-shaped conductor segment out of a conductor having a circular cross section shape.

21. (Withdrawn) The method of claim 20 wherein the forming step further includes the substep of:

reshaping said straight portions of the conductor segment into a rectangular cross section shape having a width and a height, and wherein the width of said straight portions is substantially equal to the width of said slot, thereby defining said second cross section shape different than said first cross-section shape.

22. (Withdrawn) The method of claim 21 wherein the reshaping step further includes the substeps of:

limiting said reshaping of the second cross section geometry to only the area of said straight portion that occupies said slots upon insertion into said stator core.

23. (Withdrawn) The method of claim 20 wherethe forming step further includes the substep of:

reforming the end turn regions of the winding into a rectangular cross section shape having a major extent and a minor extent, and wherein said major extent is greater than the width of said second cross-section shape, and said minor extent is less than the height of said second cross-section shape, thereby defining a third cross-section shape that is different than said first cross-section shape and said second cross section shape.

24. (Withdrawn) The method of claim 17 further comprising the step of forming said wave-shaped conductor segment so as to traverse six (6) of said slots between each of said straight portions.

25. (Withdrawn) The method of claim 17 wherein the deforming step further includes the substep of cold working the radially innermost portion of said tooth tips.

26. (Withdrawn) The method of claim 17 wherein the inserting step includes inserting said wave-shaped conductor segment into said slots through corresponding slot openings in a radially-outwardly direction from said central bore.

27. (Withdrawn) The method of claim 17 wherein the inserting step includes inserting said wave-shaped conductor segment into said slots in an axial direction.

28. (Withdrawn) The method of claim 17 further comprising the step of inserting a slot insulating material in each of said slots wherein a combined width of each of said straight portions and said insulating material is substantially equal to the slot width.

29. (Withdrawn) A stator for dynamoelectric machines, comprising:

a core having a main axis and a secondary axis, said secondary axis being parallel to, and radially offset from, said main axis;

a plurality of teeth projecting radially-inwardly from said stator core to define a central bore, said plurality of teeth being separated by intervening slots having slot openings; and

a plurality of wave-shaped winding segments disposed within said plurality of slots, each of said wave-shaped conductor segments having a plurality of straight portions extending longitudinally along and parallel to said secondary axis, a plurality of end-turn regions extending transverse said secondary axis and disposed in between said straight portions in an alternating pattern so as to define a pair of free segment ends on outermost straight portions, said free segment ends having a first cross-sectional shape, said straight portions having a second cross-sectional shape different than said first shape, and said end-turn regions having a third cross-sectional shape different than said first or second shapes, and further wherein said adjactent wave-shaped winding segments are electrically connected to each other to form a continuous stator winding.

30. (Withdrawn) A stator in accordance with claim 29 wherein said plurality of teeth include unformed tooth tops that define said slot openings, and wherein said unformed tooth tips are deformed so as to reduce said slot openings after said plurality of wave-shaped conductor segments are inserted into said slots.

31. (Withdrawn) A stator in accordance with claim 29 wherein each of said wave-shaped conductor segments span one or more wave cycles.

32. (Withdrawn) A stator in accordance with claim 29 wherein each of said wave-shaped conductor segments span n/2 wave cycles wherein n is an integer great than or equal to 1.

33. (Withdrawn) A stator in accordance with claim 32 wherein n=7.

34. (Withdrawn) A stator in accordance with claim 29 wherein both of said free segment ends are located on the same axial side of said stator core.

35. (Withdrawn) A stator in accordance with claim 29 wherein said free segment ends have a circular cross-sectional shape thereby defining said first cross-sectional shape, said straight portions have a rectangular cross sectional shape thereby defining said second cross-sectional shape, and said end-turn regions have a rectangular cross-sectional shape different than said second cross-sectional shape thereby defining said third cross-sectional shape.

36. (Withdrawn) A stator in accordance with claim 29 further comprising an insulating material disposed within said slots.